

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Previously Presented) A fluid dispensing system, comprising:
a pump body constructed and arranged to couple to a container, the pump body defining a fluid inlet opening and a pump cavity;
an inlet valve constructed and arranged to allow fluid from the container to enter the pump cavity through the fluid inlet opening;
a plunger slidably received in the pump cavity, the plunger defining a fluid passage through which the fluid is dispensed; and
a shipping seal sealing the fluid passage to minimize leakage of the fluid before use, the shipping seal including at least two seal members constructed and arranged to seal inside the fluid passage in the plunger, the at least two seal members extending from opposite sides of the shipping seal so that the shipping seal can be installed regardless of which side of the shipping seal faces the plunger.
2. (Original) The system of claim 1, further comprising an outlet valve disposed inside the fluid passage to minimize fluid leakage between dispenses.
3. (Original) The system of claim 2, wherein the outlet valve includes a check valve.
4. (Original) The system of claim 2, wherein the outlet valve includes a valve member and a spring engaging the valve member to bias the valve member into a normally closed position.
5. (Original) The system of claim 1, further comprising a shroud member covering the inlet opening to draw fluid from the container.

6. (Original) The system of claim 1, further comprising a venting structure to equalize air pressure inside the container.

7. (Original) The system of claim 6, wherein the venting structure includes a vent opening defined in the pump body and a vent valve sealing the vent opening to allow air passage into the container.

8. (Original) The system of claim 1, wherein the shipping seal is constructed and arranged to seal the fluid passage when the plunger is fully retracted and to allow fluid flow into the fluid passage when the plunger is extended.

9. (Previously Presented) The system of claim 1, wherein the shipping seal includes:
a support flange engaging the pump body from where the at least two seal members extend;
and
a flow opening defined in the support flange to allow passage of fluid into the fluid passage.

Claim 10 (Canceled).

11. (Previously Presented) The system of claim 9, wherein the at least two seal members each includes a beveled edge.

12. (Currently amended) A fluid dispensing system, comprising:
a fluid pump constructed and arranged to dispense fluid from a container, the fluid pump including a fluid intake end portion and a fluid dispensing end portion;
the fluid intake end portion being configured to extend within the container when the fluid pump is coupled to the container to lower overall profile of the fluid dispensing system;
the fluid intake end portion having a pump body with an inlet opening where the fluid from the container is drawn into the fluid pump;
the fluid dispensing end portion being configured to extend outside the container when the fluid pump is coupled to the container;
the fluid dispensing end portion having a dispensing opening where the fluid is dispensed from the fluid pump;
an intake shroud covering the inlet opening, the shroud including a flow member that defines in part a flow channel with a channel opening configured to draw fluid from the container into the inlet opening;~~and~~
the flow channel of the shroud extending from the fluid intake end portion towards the fluid dispensing end portion, wherein the channel opening is located along the fluid pump between the inlet opening and the fluid dispensing end portion to increase evacuation efficiency of the fluid from the container;
the shroud including one or more shroud standoffs that space the shroud from the pump body; and
the flow channel being defined between the flow member and the pump body.

13. (Original) The system of claim 12, further comprising the container.

14. (Currently amended) A fluid dispensing system, comprising:
a fluid pump constructed and arranged to dispense fluid from a container, the fluid pump including a fluid intake end portion and a fluid dispensing end portion;
the fluid intake end portion being configured to extend within the container when the fluid pump is coupled to the container to lower overall profile of the fluid dispensing system;
the fluid intake end portion having an inlet opening where the fluid from the container is drawn into the fluid pump;
the fluid dispensing end portion being configured to extend outside the container when the fluid pump is coupled to the container;
the fluid dispensing end portion having a dispensing opening where the fluid is dispensed from the fluid pump;
an intake shroud covering the inlet opening, the shroud including a flow channel with a channel opening configured to draw fluid from the container into the inlet opening;
the flow channel of the shroud extending from the fluid intake end portion towards the fluid dispensing end portion, wherein the channel opening is located along the fluid pump between the inlet opening and the fluid dispensing end portion to increase evacuation efficiency of the fluid from the container
wherein the container is inverted and has a neck where the fluid pump is coupled to the container;
wherein the fluid pump is an inverted dispensing pump;~~and~~
wherein the channel opening of the shroud opens at a position below the inlet opening in the neck of the container to draw the fluid in the neck that is located below the inlet opening; and
a vent opening defined in the pump body to vent air into the container and a vent seal to seal the vent opening.

15. (Previously Presented) The system of claim 12, further comprising a shipping seal disposed inside the pump cavity to minimize fluid leakage during shipping.

16. (Previously Presented) The system of claim 12, further comprising a venting structure defined in the fluid pump to equalize air pressure inside the container.

17. (Previously Presented) The system of claim 12, further comprising:
a plunger slidably disposed in the fluid pump for pumping the fluid, wherein the plunger defines a fluid passage that dispenses the fluid; and
an outlet valve disposed inside the fluid passage to minimize fluid leakage between dispenses.

18. (Currently amended) A fluid dispensing system, comprising:
an inverted fluid dispensing pump comprising
a pump body defining a pump cavity,
a plunger slidably received in the pump cavity, the plunger defining a fluid passage with a dispensing opening from which fluid is dispensed, wherein the dispensing opening faces downwards when installed, and
an outlet valve disposed inside the fluid passage, wherein the fluid passage between the outlet valve and the dispensing opening is enclosed, wherein a height of the fluid in the fluid passage between the outlet valve and the dispensing opening is reduced so that surface tension of the fluid at the dispensing opening supports the fluid to minimize dripping of the fluid from the dispensing opening.

19. (Original) The system of claim 18, further comprising a dispensing port coupled to the plunger, the dispensing port defining a portion of the fluid passage and the dispensing opening, wherein the outlet valve is disposed inside the fluid passage at an interface between the plunger and the dispensing port.

20. (Original) The system of claim 19, wherein the outlet valve includes a spherical shaped valve member and a spring biasing the valve member in a normally closed position.

21. (Original) The system of claim 18, wherein the outlet valve includes a check valve.

22. (Original) The system of claim 18, further comprising:
wherein the pump body defines one or more fluid intake openings; and
an intake shroud is disposed over the pump body to draw fluid into the intake openings.

23. (Original) The system of claim 22, further comprising an inlet valve disposed to seal the fluid intake openings.

24. (Previously Presented) The system of claim 18, further comprising a shipping seal constructed and arranged to seal the fluid passage to minimize fluid leakage during shipping.

25. (Previously Presented) The system of claim 18, further comprising a vent opening defined in the pump body and a vent seal to seal the vent opening.

26. (Previously Presented) The system of claim 12, wherein the fluid pump includes an inlet valve at the inlet opening, wherein the shroud allows fluid to be drawn to the inlet valve.

27. (Currently Amended) A fluid dispensing system, comprising:
an inverted dispensing pump configured to secure to a neck of a container that is inverted during dispensing of fluid from the container;

the inverted dispensing pump including a pump body with an inlet opening where the fluid from the container is drawn into the inverted dispensing pump; ~~and~~

a shroud covering the inlet opening of the inverted dispensing pump, the shroud including a flow member that defines a flow channel with a channel opening that opens at a position below the inlet opening in the neck of the container during pumping to draw the fluid in the neck of the container that is below the inlet opening into the inverted dispensing pump, wherein the flow channel is defined between the flow member and the pump body;

the shroud having a standoff that spaces the shroud from the pump body to allow the fluid to flow between the shroud and the pump body; and

the shroud having a body engagement snap bead that secures the shroud to the pump body.

28. (Currently Amended) The fluid dispensing system of claim 27, comprising:
the container secured to the inverted dispensing pump.